WILDLIFE AND WILDLIFE HABITAT

Many animals, most obviously fish, depend entirely on the water in wetlands to survive. There are also other animals, such as amphibians, that live most of their lives in upland areas but depend on wetlands for breeding. Spring peepers are small frogs that live in the woods during most of the year, but return to wetlands each spring to breed. If you live near wetlands, you may hear the chorus of peepers in a spring night. If a swamp is filled for development, local populations of spring peepers would disappear completely.

Many mammals, amphibians, reptiles, and birds depend on wetlands for feeding, nesting, escape cover, migration stopovers, and wintering habitat. Plants also grow and flourish in wetlands. Vegetated wetlands serve as important nurseries for many young fish. Even small wetlands that appear dry much of the time are crucial to the survival of certain species.

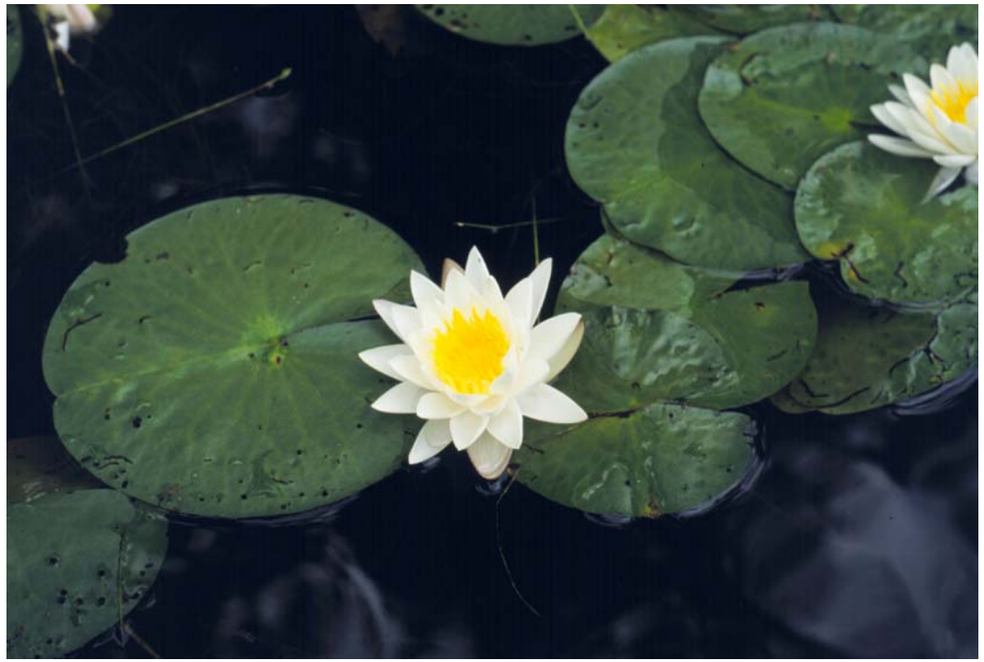
One type of seasonal wetland is the vernal pool. Vernal pools are most visible during the spring months, but may be dry at other times during the year. This seasonal fluctuation prevents them from supporting a fish population. Without the threat of fish, vernal pools are attractive areas for amphibian breeding. Rhode Island's vernal pools are critical breeding areas for wood frogs and spotted salamanders. Without vernal pools and other wetlands these species would vanish from the landscape.

More than one-third of all threatened and endangered wildlife species in the United States live only in wetlands and nearly 50% of all threatened or endangered species use wetlands at some point in their lives. Many rare native plants and animals of Rhode Island also depend on wetlands for survival, such as the yellow lady slipper, American bittern, and leopard frog.

Here are a few links to Wetland Benefits sites:
http://www.state.ri.us/dem/programs/benviron/water/wetlands/index.htm (DEM Website)
http://www.epa.gov/ow/states/RI (EPA Water Site)
http://www.epa.gov/OWOW/wetlands/index.html(EPA Wetlands Site)
http://www.nrcs.usda.gov/programs/farmbill/1996/FuncFact.html (NRCS Wetlands Site)
http://www.uri.edu/cels/nrs/paton/ (Vernal Pools)
http://www.edc.uri.edu/rirpp/Text/wetlands.htm (Rhode Island Wetlands and Floodplains)
http://www.gorp.com/gorp/publishers/countryman/walk2_ri.htm (Birding & Hiking)
http://www.gorp.com/gorp/publishers/countryman/pad_grea.htm (Canoe Trips)
http://www.gorp.com/gorp/resource/us_nwr/ri_rhode.htm (Wildlife Refuges)
http://h2osparc.wq.ncsu.edu/info/wetlands/ (Wetland Functions and Values)

STATE OF RHODE ISLAND
Department of Environmental Management
235 Promenade St.
Providence, RI 02908
www.state.ri.us/dem

Wetland Functions and Values



White Water-lily, (*Nymphaea odorata*) Photo by Jay Osenkowski

Wetlands are one of our most valuable natural resources. Next to rainforests, they are the most biologically fertile and diverse landscapes on earth. They help control flooding, clean polluted waters, provide habitat for plants and animals, and serve as areas for outdoor recreation. Keeping wetlands clean and healthy helps to improve our quality of life, as well as the lives of the plants and animals that call wetlands home. In Rhode Island, all wetlands are protected, including, lakes, ponds, streams, rivers, other vegetated wetlands, as are bordering lands adjacent to certain wetlands. This brochure highlights wetland functions and values that may be especially important to you.

FLOOD PROTECTION

Wetlands help control floodwaters by storing excess water during heavy periods of rain and snowmelt. During and after a storm, rainwater flows to low-lying areas, which may be our floodplains and swamps. Trees, roots, soil, and other vegetation hold the excess water until it can be slowly released into streams and rivers. This process helps reduce the risk of flooding into nearby homes.

Urban wetlands are particularly important because they help prevent flooded basements, parking lots, and roads. When wetlands are filled or altered, their ability to hold floodwaters is crippled. In 2001 the Pocasset River Watershed suffered one of many severe floods. This flooding was due to approximately 700 acres of wetland loss since 1939, much of which was floodplain loss. As a result, in the highly urbanized and industrial areas of Johnston and Cranston, there is nowhere for the water to go during heavy periods of rain resulting in flood damage to private properties. It is easier and less expensive to maintain existing wetlands than it is to engineer and create stormwater drainage systems to handle the water.

SURFACE WATER AND GROUNDWATER

Wetlands also provide key links in the water cycle. Many wetlands help to maintain stream flow and aquatic resources through much of the year by releasing water from both surface and groundwater storage. Their ability to store and slowly release water after storms not only prevents flooding, but also helps to keep streams flowing when they might otherwise be dry. Continually flowing streams provide water for our plant and animal communities, as well as for drinking water and recreation.

Some wetlands may also recharge groundwater reservoirs during certain periods, thus contributing to public and private water supplies. In Rhode Island, where approximately 30% of the state's residents depend on wells for drinking water, the health of groundwater resources is of utmost importance.

FOOD, JOBS, AND THE ECONOMY

The amount of plant material produced in many wetlands is comparable to tropical rain forests and greatly exceeds that of temperate forests or grasslands. The large amounts of plant material from wetlands serve as the base for food chains that support many animals. As humans, we benefit from this productivity by harvesting many commercial products.

The protection of wetlands will benefit us all by providing food, jobs, and a stronger economy. We use a wealth of natural products from wetlands, including fish, blueberries, cranberries, timber, and wild rice, as well as medicines that are derived from wetland soils and plants. Wetlands are habitats for fur-bearers like muskrat, beaver, and mink as well as reptiles such as turtles and snakes. The nation's harvest of muskrat pelts alone is worth over $70 million annually; a portion of which comes from Rhode Island.

WATER QUALITY PROTECTION & IMPROVEMENT

Wetland soils and plants naturally treat stormwater pollutants and filter excess nutrients out of rainwater by absorbing the pollutants before the water reaches rivers, streams and lakes. Wetland plants also help to remove sediment and debris by slowing the velocity of the water and allowing sediment to settle out before the water continues on its course. This natural treatment system helps to improve water quality in rivers and streams. Healthy wetlands are then able to support wildlife, supply high quality water to reservoirs, and provide clean recreational water areas for fishing and swimming.

Here in Rhode Island, the Scituate Reservoir provides more than 50% of the state's residents with drinking water. The rivers and streams that feed this reservoir and all others must be protected in order to keep our drinking water clean and safe. Wetlands and adjacent buffer areas must be preserved to keep the drinking water supply clean and plentiful.

It is important to remember that although wetlands have the ability to cleanse storm and waste water, if they are used solely for this purpose they can become clogged and degraded, thus greatly reducing their benefits.

RECREATION AND AESTHETICS

Wetlands support a wide range of recreational activities including swimming, fishing, hunting, boating, ice-skating, and water-skiing. Other activities such as hiking, photography, bird watching, education, and nature study may not be dependent on the presence of water, but are often enhanced by and focused around wetlands.

The quality of a recreational activity depends, to a great extent, on the health of the wetland system. For example, the perch or pickerel in a fishing pond will only be healthy if the streams and groundwater that feed the pond are healthy. Fish from ponds and streams that are contaminated with urban or industrial runoff may no longer be safe to eat. Protecting wetlands helps to ensure safe and healthy fish.

Wetlands are also important because they provide attractive open space in increasingly urbanized areas. Many wetlands also contain unusual physical features or have a historical significance. For example, certain river valleys and ponds provide modern evidence of glaciers. Early Native American artifacts are frequently found near wetlands that provided sources of water, food, and transportation. Millponds and their associated wetlands were once critical to maintaining the flow of waterwheels that drove the industrial revolution in New England. The John H. Chaffee Blackstone River Valley National Heritage Corridor is one example of efforts to recognize the importance of wetlands shaping our history.